



SHIPMAIN CHRONICLE

The right maintenance at the right cost at the right time



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Managing with Metrics

By Ed Moe
SEA 04

It has often been said throughout the Navy community that you cannot manage what you cannot measure. This leads to the question of 'what are the primary processes in planning maintenance and modernization that should be managed through metrics?'

The SHIPMAIN Process Improvement Team (PIT) in conjunction with the four SHIPMAIN Cross Functional Teams (CFT) answered the question by developing customized bridge plots to measure the primary processes and desired outcomes in regards to planning ship maintenance and modernization. The bridge plots are located at www.maintenance.navy.mil/shipmain. The bridge plots consist of specific panels that provide a comprehensive view of the key process drivers and result metrics that are critical to the management of surface ship maintenance and modernization. The bridge plots are updated monthly primarily through automated data retrieval and provide graphical metric displays at the CFT, Planning Yard, Fleet, Port and Ship level.

Drilldowns to source data used to determine the metric are available for most panels to the job, availability, RCC or alteration level as appropriate. Each bridge plot panel has an associated Basis for Measurement (BFM) that describes in detail the metric intent, data source, technical responsibility, benefit, calculation and other critical details necessary to understand the metric.

Metrics are displayed graphically in order to show change over time. Analyzing the data and performing root cause analysis to identify the barriers (cultural, process or subject matter) and developing and implementing a plan of action to remove the barriers will improve the process. Metrics should be timely and analyzed on a consistent basis.

Metrics should not be used as individual performance

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MINUTES FROM LAST PIT MEETING

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Latest SHIPMAIN Brief

USS MOBILE BAY... a \$4M Repair Savings

by Karen Lloyd in collaboration with Robert Krings
Southwest Regional Maintenance Center

SAN DIEGO -- One of our most recent Selected Restricted Availabilities (SRAs) involved USS Mobile Bay (CG-53). Having received the planning package from the SHAPEC, SUPSHIP Gulf Coast, in Pascagoula, Mississippi, it was determined that the scope of repair for USS Mobile Bay would require some reduction. In an attempt to make every effort to accomplish the required work on USS Mobile Bay, members of the Class and Core Teams which consisted of a Project Manager, Port Engineer and a Shipbuilding Specialist met USS Mobile Bay while underway to better assess the situation. Upon assessing the

requested repairs on board the ship, the Maintenance Team deleted and down-scoped repair requests, reducing the cost of repairs by \$4M, and bringing the



cost of repairs within the established repair budget allotted for USS Mobile Bay. In the interest of time, once changes were noted, the Maintenance Team made all the necessary changes at SWRMC via the Navy Maintenance Database. The contract was competitively bid and awarded as a Stand- Alone Cost Plus Award Fee contract.

The ability for the SWRMC Maintenance Team to work closely with the ship to clearly identify and prioritize the required work during a scheduled availability made for the most efficient results. The overall dedication and cooperation of all involved participants (SHIPMAIN Maintenance Team members) made it possible for the required work to be accomplished within budget. Impressed by the ability to bring USS Mobile Bay back into operational status within budget and on time, Capt. D. P. Keller, Commanding Officer of USS Mobile Bay stated: "This was the most productive ship repair period that I have ever taken a ship through." Believing success should be repeated, we are currently reviewing the avail process of USS Antietam (CG-54) to ensure its availability is on time and at a reduced cost.

The Shipyard has six teams, each handling two each of the dozen ships homeported here.

Pearl SHIPMAIN Guides Hopper to Missile Defense Success

By Jason Holm
Pearl Harbor Naval Shipyard Public Affairs

PEARL HARBOR, HI -- The USS Hopper (DDG 70) maintenance team, a combined group of Pearl Harbor maintenance experts and ship's force, completed an on-time, on-budget, 12-week Selected Restricted Availability (SRA) with unprecedented combat systems modernization from June 15th to Sept. 7th.

With the operational tempo in today's Navy, maintenance hours and days are vital currency in our nation's defense. Times like these call for organizations to rise up and accept challenges. For the Hopper availability, this challenge was accepted and answered by Pearl Harbor Naval Shipyard's (PHNSY) SHIPMAIN team.

Adding to the complexity, the ship needed to embark for a ...missile defense exercise immediately following the availability.

continued on next page

Hopper Missile Defense Success cont...

Despite the complex work package, there was no room in the schedule to slip even a day, and outsiders wondered about the team's ability to succeed.

"PHNSY and the contractor (BAE Hawaii) partners, along with many installation teams, worked seamlessly together to complete the availability on time and on budget," said Lt. Cmdr. Patrick McDermott, surface maintenance coordinator. "The exercise was moved to the left early in the availability. The maintenance community sat down, planned, and told the operators, 'can do.'"

To adjust for the exercise change, the SHIPMAIN team completed its installations, sailed Hopper through sea trials, and transitioned immediately to the exercise, where it contributed significantly to national defense.

This took close coordination between multiple repair activities and



alteration installation teams (AIT), along with professionalism, dedication and intensity from each team member. The assignment of a full-time Combat System Project Engineer was noted as a major key to success.

"The Hopper SRA was already going to be complex and demanding," said Capt. James Stone, Deputy PHNSY Commander. "The change in exercise dates eliminated any margin for error, and our SHIPMAIN maintenance team took that challenge. Because of their professionalism and 'just do it attitude,' Hopper was able to fill a critical role in the recent exercise."

SHIPMAIN – short for "ship maintenance" – includes setup of maintenance teams for each ship. The members are permanently assigned to the team and are drawn from the ship, shipyard and other organizations planning, assigning and doing the work. The Shipyard has six teams, each handling two of the 12 ships homeported here.

Maintenance Teams Shorten the Cycle

Four Maintenance Teams at South Central Regional Maintenance Center (SCRMC) - USS Scout (MCM-8), USS Champion (MCM-4), USS Falcon (MHC-59) and USS Cormorant (MHC-57) - consistently exceeded entitlement in three key metrics for June, July and August 2005. All four ships met Ship to Shore, Shore to Screen and First Past Yield entitlements for June through August 2005.

Scout's Maintenance team had particularly impressive results, achieving Ship to Shore Cycle Times requiring only one day in June (entitlement is seven days) and five days in July and August. Shore to Screen Cycle Times also remained well below entitlement. The Maintenance Team managed this despite the ship's being deployed during that period. USS Champion maintained a Ship to Shore Cycle Time of four days or less throughout that period as well.

Ship to Shore Cycle Time is a measure of the delay from the time the ship identifies work requiring off-ship assistance to correct to the time the Automated Work Request is entered into the Current Ship's Maintenance Project (CSMP) shore file for further processing. This includes any delay in entering the deficiency into the ship's CSMP, as well as on-board time lag before the job is

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SERMC Maintenance Team

Capitalizes on Lessons Learned

The force protection modification for the DDG Class (SHIPALT 397 D) was recently installed on two Mayport-based destroyers in rapid succession – USS Roosevelt (DDG 80) and USS Carney (DDG 64). Prior to the commencement of Roosevelt's selected restricted availability (SRA), SHIPALT 397 D was installed for the first time on a DDG at a different Regional Maintenance Center (RMC). This install encountered numerous problems due to immature alteration design, resulting in over 150% growth. Realizing this by his interaction with his peers from the other RMC, the Roosevelt Port



Engineer delayed the alteration installation to a follow-on continuous maintenance availability (CMAV) to give the alteration time to mature. He also arranged

for a ship check of the alteration onboard Roosevelt, i.e., normal practice is to ship check only the first installation of each SHIPALT. Even with this proactive approach, which pre-empted many problems during installation, Roosevelt experienced over 100% growth on this alteration. The planning yard issued 11 LARs on SHIPALT 397 D alone with design memorandums still being issued on the last day of the availability.

"Though excessive, the amount of growth would have undoubtedly been much higher had lessons learned from previous installs not prompted a more thorough ship check on Roosevelt", stated Joe Marques, Port Engineer for both Roosevelt and Carney.

USS Carney's SRA commenced shortly after Roosevelt's CMAV, with SHIPALT 397 D included as an item in the SRA package. Prior to the start of the SRA, the Maintenance Team convened a meeting between the planning yard, the ship and the contractor. They analyzed the drawings, LARs and RLARs as a team and walked the entire alteration aboard Carney in an attempt to mitigate any growth on the job.



Though more changes were made to the alteration design during the availability, Carney's Maintenance Team was able to hold the growth on SHIPALT 397 D to 64%, a vast improvement over the growth experienced on Roosevelt and previous installations.

Southeast Regional Maintenance Center considers this reduction in growth a success story. By capitalizing on lessons learned, the Maintenance Teams were able to mitigate growth on a high visibility alteration with an extremely dynamic design. The reduced growth on USS Carney's installation was a direct result of not only the lessons learned process, but of a successful joint effort between the government and the MSMO contractor. There is no question that future installations of this SHIPALT will continue to be more cost effective with less growth and lower premiums.